



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,804	10/02/2003	Rajesh Menon	MIT.9299	9654

55740 7590 03/10/2006

GAUTHIER & CONNORS, LLP  
225 FRANKLIN STREET  
BOSTON, MA 02110

EXAMINER
----------

MCPHERSON, JOHN A

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/677,804

Applicant(s)

MENON ET AL.

Examiner

John A. McPherson

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/2/03, 3/8/04 and 9/7/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 2,4 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/7/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Double Patenting***

1. Applicant is advised that should claim 5 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-10, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,107,000 to Lee et al. [reference AA of the Information Disclosure Statement filed 9/7/04] (Lee). Lee discloses a method for producing micro-optical elements, such as Fresnel lenses, comprising the steps of providing a gray scale mask, exposing a photoresist coated substrate through the mask, moving the substrate relative to the mask, and repeating the exposure step to imprint a large array of micro-elements on the photoresist step by step. See the abstract; column 4, lines 33-50; column 8, line 23 to column 9, line 30; column 10, lines 1-21; and Figure 6. It is the

position of the Examiner that the language "for use in a lithography system" in claims 1 and 14 is a statement of intended use, and does not provide a patentable distinction between the method of making an array of focusing elements of the present invention and the method of the applied prior art.

3. Claims 1, 3, 6-9, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by "Fabrication of Holographic Microlenses Using a Deep UV Lithographed Zone Plate" by Ming et al [reference AM of the Information Disclosure Statement filed 9/7/04] (Ming). Ming discloses a method of fabricating holographic microlenses comprising the steps of illuminating a Fresnel zone plate to form diffracted waves, recording the intensity distribution resulting in interference between the diffracted waves in a holographic plate of a photoresist to form a single zone plate at a time, and 2-D scanning to form a microlens array. Furthermore, the microlenses may be fabricated by off-axis holography utilizing a reference plane wave. See the abstract; page 5111, right column, lines 7-18; and page 5113, left column, lines 36-52. It is the position of the Examiner that the language "for use in a lithography system" in claims 1 and 14 is a statement of intended use, and does not provide a patentable distinction between the method of making an array of focusing elements of the present invention and the method of the applied prior art.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-9, 11, 12, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Fabrication of Holographic Microlenses Using a Deep UV Lithographed Zone Plate" by Ming et al [reference AM of the Information Disclosure Statement filed 9/7/04] (Ming) in view of US 6,285,817 to Hobbs (Hobbs). The disclosure of Ming is discussed above in paragraph 3. However, Ming does not disclose utilizing a Dammann grating in the steps of illuminating the master element.

Hobbs discloses a holographic patterning microlithography method comprising employing a Dammann grating. See the abstract; column 1, lines 20-28; and column 4, lines 25-35. It would have been obvious to one skilled in the requisite art to employ an Dammann grating, as taught by Hobbs, in the method of Ming because it is taught that a Dammann grating provides for multiple equal intensity beams with negligible path length differences in holographic exposure processes.

***Allowable Subject Matter***

5. Claims 2, 4 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 1756

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (571) 272-1386. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John A. McPherson  
Primary Examiner  
Art Unit 1756

JAM  
3/6/06